© Crown copyright • www.metoffice.gov.uk

Will a wind turbine work for you?

5 March 2009

A new online service highlighting the potential for small-scale wind power generation at specific locations has been launched, following scientific input from the Met Office.

The innovative web tool has been developed by applying our science and follows a study commissioned by the Carbon Trust. By simply entering a postcode, users can choose the relevant type of building and local environment to understand the total power yield of installing a small wind turbine.

The effectiveness of wind generation has been calculated by using historical Met Office climate data, local land use and large-scale orography of the land. If 10% of the population installed turbines, a saving of 0.6 million tonnes of carbon dioxide is possible, generating 1.5 TWh of green electricity. However, it is possible that some urban sites will not pay back the carbon used as a result of the manufacturing, production and installation of the turbine, and this new tool will help people evaluate the potential benefits of using local wind generation.

The carbon prize for rural sites is about four times that of urban sites due to higher wind speed conditions. This is because of the increased friction caused by buildings and other urban structures.

Cathy Durston, Head of Met Office Consulting, said: "By using our historical climate data, people will be able to assess the potential to place a small wind turbine at their location.

"Applying scientific expertise from the Met Office has provided the Carbon Trust with a new way of serving businesses and the public with specific wind data for their property."

Mark Williamson, Director at the Carbon Trust, added: "In the right location, small-scale wind turbines can provide both cost and carbon savings, but anyone considering installing a turbine should use the Carbon Trust wind estimator to check before proceeding with actual on-site wind monitoring. There has been some confusion around the true performance of small wind turbines but this online tool should help to clear that up."

The launch of the new web feature comes as scientists from around the world gather in Copenhagen, for the conference 'Climate Change: Global Risks, Challenges and Decisions'. The Met Office will be presenting work at the conference which has investigated climate model information and how it can be used by the wind energy industry. This includes how climate change may impact upon wind power generation within the UK and across Europe.

Find out about wind data in your local area